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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,947	08/22/2003	Syb Leijenaar	LMPY-18010 [333/U]	8248

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EXAMINER

VAN ROY, TOD THOMAS

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/645,947	Applicant(s) LEIJENAAR ET AL.	
	Examiner <i>in [signature]</i> Tod T. Van Roy	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5-16 is/are rejected.
- 7) ☒ Claim(s) 3-4 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/16/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>04/16/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Figure 1 #111, and #106, and Figure 2 #114. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 recites the limitation "the first y member" in line 18. There is insufficient antecedent basis for this limitation in the claim. It is believed that this limitation should read "the first support member" and has been examined accordingly.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Walter (US 4764983).

With respect to claim 1, Walter discloses a suspension system for mounting a laser discharge unit to a laser chassis (fig.1) including: a first support member (fig.1 #48), a second support member (fig.1 #50); wherein the first support member and the second support member support the laser discharge unit; a first metal spring (fig.1 #52 rear left) and a second metal-spring (fig.1 #52 rear right) coupled to the first support member, and the first and second metal spring coupled the laser chassis (fig.1 screw #53) such the first support member is resiliently coupled to the laser chassis; and a third metal spring (fig.1 #54 front left) and a fourth metal spring (fig.1 #54 front right) coupled to the second support member, and third and fourth metal spring coupled to the laser chassis (fig.1 screw #55) such that the second support member is resiliently coupled to the laser chassis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2, 5, and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walter in view of Seki (US 4769824).

With respect to claim 2, Walter teaches the suspension system as outlined in the rejection to claim 1 above, but does not teach the metal springs to be planar. Seki teaches a holding structure for a gas laser system in which a multi-armed planar metal spring is used (fig.2 #50). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the suspension system of Walter with the planar springs of Seki to reduce the effects of vibrations and impacts to the suspension system (Seki, col.6 lines 25-29).

With respect to claim 5, Walter and Seki teach the suspension system as outlined in the rejection to claim 2, and further teach that the multi-armed planar springs would define a single plane (in vertical plane as seen in fig.3 of Walter).

With respect to claims 8-10, Walter and Seki teach the suspension system as outlined in the rejection to claim 2, wherein the reduction in the vibrations of the system by the planar springs would inherently reduce the influence vibrations on the bandwidth, wavelength, and energy stability of the laser discharge unit.

With respect to claim 11, Walter and Seki teach the suspension system as outlined in the rejection to claim 2, wherein the coil springs were replaced with planar springs, and further teach the system to include a laser discharge unit and laser chassis (Walter, col.2 lines 50-51), and an optics frame (Walter, col.2 lines 61-62, where the lens is inherently held in a framing device), and additionally with the y-axis being defined as running perpendicularly to the beam emission, from left to right in fig.1 of Walter.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walter in view of Seki and further in view of Oliver et al. (US 6425559).

With respect to claim 6, Walter and Seki teach the suspension system as outlined in the rejection to claim 5 above, but do not teach the system to include wheel assemblies. Oliver teaches a gas laser support system in which wheel assemblies are mounted to the laser discharge unit (col. 3 lines 26-27), wherein the wheels of the first assemblies (col.3 line 27, note 2 wheels) are positioned on top of the first support

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member (fig.3 #160), and the wheels of the second assemblies (col.3 lines 32-34, note 2 wheels) are positioned on top of the second support member (fig.3 #162). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the suspension system of Walter and Seki with the wheel assemblies of Oliver in order to allow for alignment of the beam, as well as for installation and removal of the laser chassis (Oliver, col.3 lines 33-34) from a more fixed position.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walter in view of Oliver.

With respect to claim 7, Walter discloses the suspension system as outlined in the rejection to claim 1, but does not disclose the second support member to be a v-rail member. Oliver teaches a gas laser support system in which one of the support members is in a v-track configuration (col.3 lines 26-28). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the suspension system of Walter with the v-track support of Oliver to allow for the incorporation of wheels (Oliver, col.3 lines 26-28) and hence, adjustability.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walter in view of Seki and further in view of Takahashi (US 2002/0080339).

With respect to claim 12, Walter and Seki teach the suspension system as outlined in the rejection to claim 11 above, but do not teach the use of at least two accelerometers to be mounted to the optics frame. Takahashi teaches a vibration

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control apparatus in which six accelerometers are mounted to an optics frame ([0008], note lines 4-6 speaking of the main column supporting the optics components, and lines 14-16 speaking of the accelerometers being mounted on said main column). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the optics frame of Walter and Seki with the accelerometers of Takahashi in order to monitor the vibration levels of the system (Takahashi, [0008] lines 8-16).

Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walter in view of Seki and further in view of Kousek et al. (US 6421360).

With respect to claim 13, Walter and Seki teach the suspension system as outlined in the rejection to claim 11 above, but do not teach the use of a level sensor to level the laser. Kousek teaches a laser system which includes three leveling sensors for positioning purposes (col.3 lines 24-27, wherein it is well known in the art that a level sensor would work equally well on a gas laser, or any laser chassis). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the suspension system of Walter and Seki with the level sensors of Kousek in order to enable the determination of whether the system is correctly orientated (Kousek, col.3 lines 24-30).

With respect to claims 14-16, Walter, Seki, and Kousek teach the suspension system as outlined in the rejection to claim 13 above, but do not teach the specific type of level sensor to be used. It would have been an obvious matter of system and situational design (i.e. total system configuration, environmental exposure, and operator

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usage) to one of ordinary skill in the art at the time of the invention to choose the most appropriate level sensor type.

Allowable Subject Matter

Claims 3-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claim 3, the suspension system for mounting of a laser discharge unit wherein the springs, chassis, supports, and spring arms are in the planar configuration as outlined in the limitations of claim 3 were not found to be taught in the prior art.

With respect to claim 4, the suspension system for mounting of a laser discharge unit wherein the planar springs have two outer arms, being fixed to the laser chassis, and one center arm, being fixed to the support, was not found to be taught in the prior art.

Conclusion

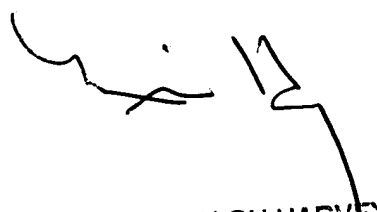
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tod T. Van Roy whose telephone number is (571)272-8447. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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MINSUN OH HARVEY
PRIMARY EXAMINER